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No. 2306.—VOL. XLIX. LONDON, SATURDAY, NOVEMBER 1, 1879. PRICE (WITH THE JOURNAL) SIXPENCE. PER ANNUM, BY POST, £1 4s.

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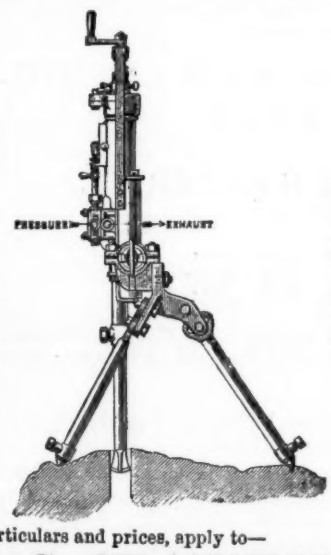

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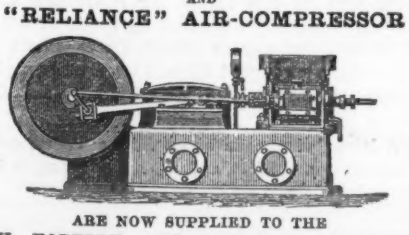

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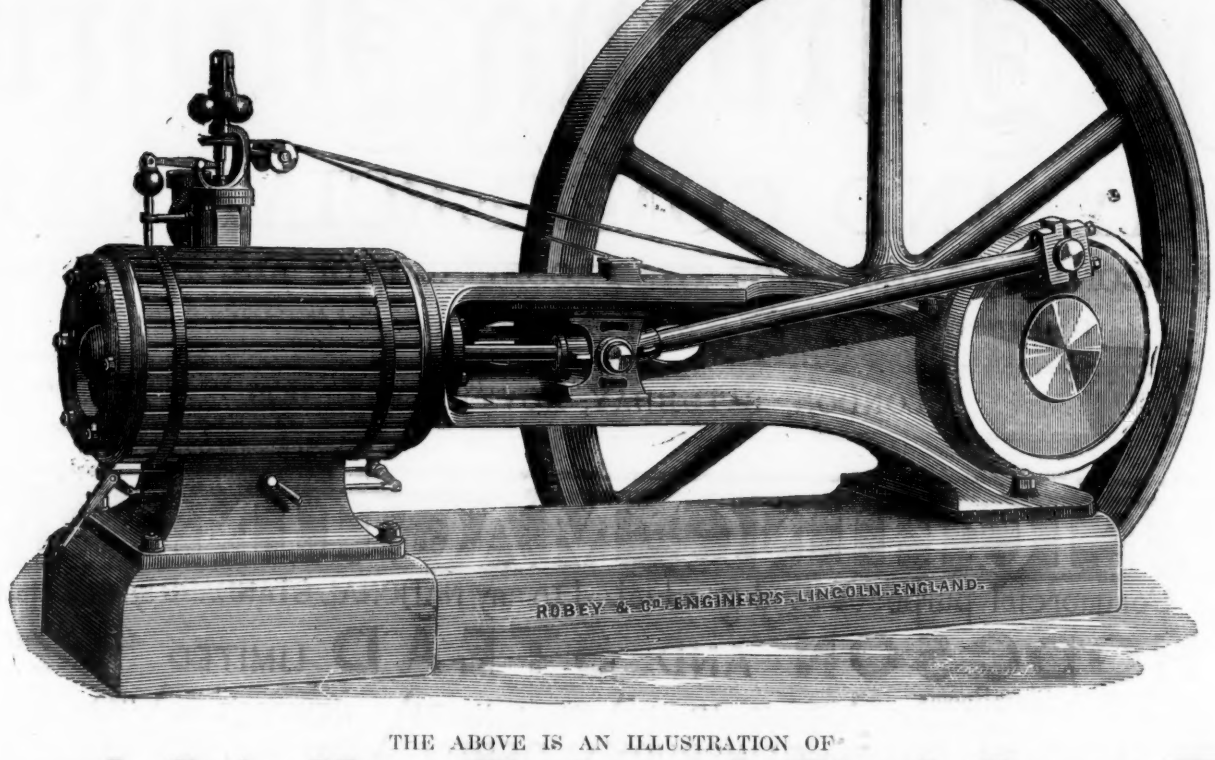

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[Estimates and further information will be prepared on receipt of the necessary particulars].

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BELTING versus GEARING.

Of late years a great change has been gradually taking place in the Mills and Manufactories of Lancashire and Yorkshire by the substitution, betwixt the Engines and Shafting, of Belting for Gearing, thus doing away with all noise and vibration, as well as wonderfully reducing the cost of repairs; and so manifest are its advantages that driving by Gearing will soon be the exception.

As a still greater improvement, we beg to submit our Wrought-iron Drums (Rodgers's Patent), of which we are the Sole Makers. Their special merits may be briefly stated as follows:—

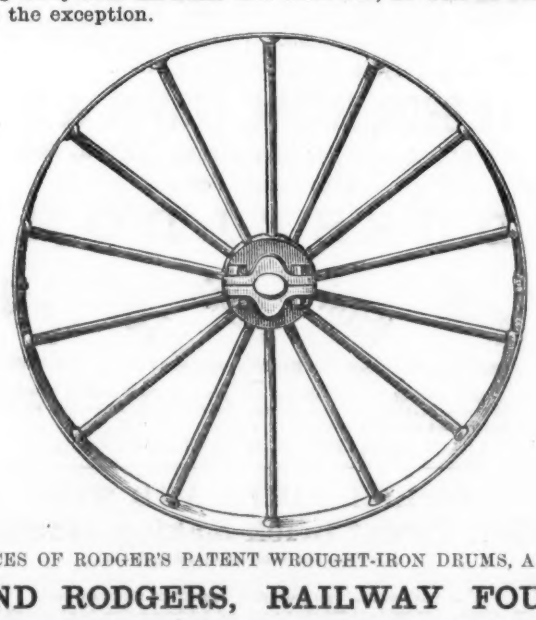
1.—These drums absorb less of the power of the engine in friction than any other mode of driving.

2.—Leather belts on these drums will drive considerably more than cast-iron ones, and the belts last much longer.

3.—These drums are not only considerably lighter in the larger sizes, but also infinitely stronger than cast-iron ones.

4.—In case of fire they suffer little damage. We have repaired many hundreds that have been in very serious fires, generally at about 25 per cent. on first cost.

5.—For MAIN DRIVING purposes they are invaluable, especially in case of a new mill, as they do no require such substantial and heavy building construction as is necessary in ordinary cases to withstand the constant vibrations of gearing.



6.—The wrought-iron drums and belts are more easily and quickly fixed than gearing.

7.—Greater economy in steam power, as it requires less power to transmit the same effective force with belt than it does with gearing.

8.—Very much greater economy in subsequent repairs as compared with gearing.

9.—The power is transmitted evenly, faithfully, and noiselessly, and without the vibration arising from defective or worn gearing.

10.—They require no cases for transport or shipment.

In support of the foregoing statements, we may say we have already supplied upwards of 20,000 of these Drums for use in Great Britain and Ireland, and have also exported them largely throughout the Continent of Europe, India, and the British Colonies.

These drums being made by special machinery, can be made any diameter up to 24 feet, and also any width up to 4 feet, and to fit any size of shaft.

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Original Correspondence.

TRIAL OF SAFETY-LAMPS AT WIGAN.

SIR,—Mr. Ashworth must have mistaken my meaning in my letter of Oct. 17. I did not mean to acknowledge any inaccuracy in my calculation which was for the case of pure gas, and quite correct for that case. What I meant to say was that the ratio of the true velocity to the registered velocity depended on the specific gravity; and as Mr. Ashworth in his experiments at Wigan used an explosive mixture of the gas, he would require to use its specific gravity to get the true velocity. The alternative would be to use an anemometer dependent not on the specific gravity of the gas, but on the velocity.

R. T. M.

SAFETY-LAMPS.

SIR,—Exception has been taken to my remark that the experiments which have been made on safety-lamps are not satisfactory; such an inference may reasonably be made when the different results arrived at by experimenters on the subject are considered. From what I remember of the Garswood Hall experiments, by Messrs. Smethurst and Ashworth, the following admissions were made—that owing to the proper admixture of fire-damp and air not having been obtained in their trials with one of the principal lamps there was a difference in the results obtained with this one lamp. I am not aware, however, that this remark applied to all the experiments they made. Again, another admission was to this effect—that owing to the similarity between the Williamson and the Stephenson lamp experiments with the latter were not proceeded with. Why the Stepheuson lamp should be thus summarily disposed of the writer is at a loss to perceive, seeing that in practice it has proved perhaps the most valuable lamp we possess for fiery mines; it can, doubtless, be so improved as to stand a high velocity of explosive current without passing the flame. It is probable the subject of safety-lamps will be taken up by the present Royal Commission on Mine Accidents, the subject having so intimate a relation with colliery explosions; from such experiments the diversity of opinion now existing with respect to what is really a safety-lamp will be set at rest, and only those which will stand the requisite tests be permitted in fiery mines.

Most of the lamps now in use have some weak point, such as passing the flame in an ordinary low current, affording deficient light, going out too quickly, passing the flame in a low current when held in an oblique position, continuing to burn at the top of the gauze when the wick flame has gone out, or the illuminating material may itself sometimes explode. These are a few of the properties which different lamps possess, and which it is necessary to guard against, though that of deficient light is not a fatal objection, although a very serious one.

The writer has assisted Mr. D. P. Morison in some recent experiments with his improved safety-lamp. This lamp he believes is free from all the imperfections adverted to; besides giving a good light, through two cylinders of glass, it will stand any ordinary high velocity without passing the flame, and it has been carried as a light through the heaviest currents, the light burning steadily all the while; is self-extinguishing in an explosive mixture, and the light can only be put out when in ordinary use by culpable negligence in its treatment. Perhaps Mr. Ashworth will be good enough to furnish the readers of the *Mining Journal* with an abstract of the Garswood Hall experiments.

M. E.

COLLIERY ACCIDENTS.

SIR,—The melancholy accident last week, seven men being killed by being drawn over the pulley-wheel at a colliery near Wigan, should surely cause colliery proprietors at once to apply self-detaching hooks to all pit cages. Every now and then we hear of these disastrous accidents, sometimes with much loss of life, always with great loss of property; and it is a matter of surprise that those who work collieries do no adopt some of the preventatives which perfectly secure life and property. The only arguments I have heard against them are—first, that they make engine-men careless; and, secondly, that such accidents are rare. The first argument seems absurd, for if an accident should occur when a hook is attached, surely the engineer is liable to fine or dismissal. The second argument, that accidents are rare, is not correct, for they frequently occur, but fortunately most often when coal is on the cage instead of men. As statistics show, however, that many lives are lost from this cause, why not apply some remedy which is known to be efficacious? Nothing but false economy and a careless disregard of human life can account for such accidents, and the sooner Parliament makes the use of a safety-hook compulsory the better. Till that time, juries should return verdicts of manslaughter against colliery proprietors who refuse to take proper precautions.

R.

Birmingham, Oct. 27.

OVERWINDING AT COLLIERIES.

SIR,—At the meeting of the Iron and Steel Institute at Liverpool, a model was exhibited of an apparatus designed to render impossible such accidents as that which took place at the Alexandra Colliery. The apparatus is considered thoroughly efficient, and is, I understand, being widely adopted, among others by Messrs. Higson, of Manchester, at the many collieries with which they are connected. Without anticipating the investigation of the causes of the accident at St. Helens, I may ask, in the interests of all concerned, whether the adoption of this or similar machinery should not be made compulsory at all collieries where winding gear is used? Under the old system the responsibility cast upon the driver of the winding engine, and the danger to the persons ascending and descending, are alike unfair and unnecessary.

W. H. CARMONT.

Cyclops Iron Company, Openshaw, Oct. 23.

CUTTING COAL BY ELECTRICITY.

SIR,—I recollect upon one occasion when I asked the inventor of an improved (?) system of ventilating collieries whether he had ever been in a mine, he unhesitatingly replied—"No, nor do I ever intend to risk my life in such a place;" and it strikes me that Mr. G. B. Finch, of Lyndhurst-road, Hampstead, must have taken about the same amount of trouble to ascertain the nature and application of electricity. He states that in getting coal in mines and workings apparatus are sometimes employed for cutting grooves or chases in the coal so that by wedging or otherwise masses of it can be detached from the seam. It is in many cases difficult to obtain in the mine or working, or to convey into it, the power necessary for driving such apparatus. His invention relates to means of effecting the required cutting operation by the use of electricity as a motive power, which he thinks can be conveyed over considerable distances and through intricate workings by insulated conductors, and then applied. He mounts an electro-dynamic machine of any known construction on a framing or bed which is capable of movements in several directions like the slide rest of a lathe. On the axis of the machine he fixes a drill or a boring bar, fitted with a series of cutters. The machine having its conductors placed in circuit with a source of electricity at a distance, its axis is caused to revolve rapidly. The drill or boring bar attached thereto being advanced into and along the coal, cuts a groove therein in any desired direction. There may be several of the machines, each with its drill or boring bar acting in succession in the same working, so that each deepens the groove made by that in advance of it, and these machines may be all included in one electric circuit, and if required mounted on one framing. For generating the electricity to supply the machine or machines, he prefers to employ a similar machine or similar machines working as dynamo-electric machines, which may be situated in any convenient place on the surface, and driven by steam or other power, the electricity being conducted from these to the mine or working by suitable insulated conductors. Although he has here described the drill or boring bar as being attracted to and driven directly by the axis of the machine, which arrangement is preferable on account of its simplicity, it is obvious that the drill or boring bar might be mounted in separate bearings and driven by straps or gearing from the axis of the electro-dynamic machine.

Now, I think everyone who has seen anything of the working of dynamo-electric machines will acknowledge that the amount of steam power required to generate the electricity is enormous, and that when the circuit is long the quantity of the power which would be available for working a coal cutter would be proportionately small. Mr. Finch should prove the converse before thinking to introduce his system.

Camden Town, Oct. 27. T. S.

CAKEMORE, CAUSEWAY GREEN, AND LOWER HOLT UNITED BRICKWORKS AND COLLIERY COMPANY.

SIR,—Observing that there was some correspondence recently in the Journal about this property, I should be obliged if you would spare me a small portion of your valuable space to make known to the shareholders and others an important discovery that has been made since then, adding some thousands of pounds of value to the colliery.

Having some time since proved the "Heathen" coal seam and the "Gubbin" ironstone measure, which are the next seams below the "Thick" coal, and found them of the average thickness and quality of the district, I drove a short headway into these measures, which are worked together, and will produce about 3000 tons of coal per acre, besides ironstone, and will, when further opened out, form a separate addition to the output. Meanwhile, as this was under that portion of the estate where the Thick coal had been worked by the former proprietors, I thought I would try whether, as I rather anticipated, the bottom part of the Thick coal had been worked, and to my gratification found by borings that there was 11 ft. 6 in. of bottom coal left ungotten.

Now, as this seam has the usual hard rock roof, which will enable it to be worked cheaply, and the coal being proved hard and of good quality, and will make a fair proportion of lumps and small percentage of slack, it is an important discovery, especially as it will most probably extend under the whole area of the old workings, and will yield many thousands of tons of coal in addition to the already large amount previously estimated to be contained in the "maiden" part of the estate, and, as before stated, many thousands of pounds extra value.

It especially offers one great advantage, being so situated that it can be worked separately (as has already been commenced) through the upcast shaft, without interfering with our present output through the downcast shaft, which will soon amount to about 2000 tons weekly, of which the directors will no doubt avail themselves so soon as better prices and brisker demand justify our putting out that quantity, espacially as coal will be raised in price on Nov. 1.

As regards the workings in the Thick coal seam, we have, after many tedious delays caused by various uncontrollable circumstances, which would occupy too much space to detail here, driven three of our main gate-roads to the extreme western boundary of the estate, and two more will reach it within a week or two, when we shall not be dependent merely upon the produce of the drivings for our output, but shall be working back the coal from the stalls in larger quantities, and with a better proportion of large coal.

I may say, in conclusion, that this property, which now comprises nearly four times the acreage of the original Cakemore Colliery, and includes a large area of "maiden" Thick coal most undoubtedly has (owing to its freedom from water and other advantages, and its working in combination with its unrivalled brickworks) a great future before it.

RICHARD LATHAM,
Mining Engineer.

The Hollies, Dudley, Oct. 29.

TREATMENT OF TIN ORES.

SIR,—I am very sorry, indeed, to see this important and interesting subject dwindling into personalities which is causing unnecessary trouble and annoyance to all parties, simply because of a wild and thoughtless assertion on the part of a gentleman who is unwilling to acknowledge it. I was scarcely ever more surprised than on reading Mr. Green's letter of last week wherein he stated he had not read my letter of the 27th ult. until he had seen my reply to his letter of the 1st inst., and I cannot do better than reproduce here his own words in order to show that he has certainly been trifling with the subject, and thereby given rise to this unnecessary annoyance both to me and himself. He says at the beginning of his letter: "Seeing that this important subject is now attracting some of the attention which it so well deserves, with your permission I wish to state a few facts which seem to be ignored by some of your correspondents, and are apparently unknown to others. In the year 1871 letters patent were taken out on my behalf by the Patent Self-Acting Mineral Dressing Machine Company of Glasgow for a system of direct classification from the pulveriser, which patent consisted in an arrangement by which the classification was for all practical purposes perfect, and effected without any manual labour whatever, and the ores as they are classified are, in like manner without labour, passed direct to machines having a motion correctly adapted to the size of the classified stuff it receives, thus forming the complete self-acting system so patented. Notwithstanding this, now, in the year 1879, some of your correspondents are not unwilling to allow the mining public to believe they have originated the whole thing, when they are simply pirates, and are liable to legal process."

Now, considering that this appeared the week after, and under the same heading as the illustration of the new classifier and separator, it would be impossible, I think, for anyone to read it without being impressed that he most probably meant me as one of the pirates, and if you couple this with the assertion that his system is for all practical purposes perfect and complete, I think you will find my previous remarks fully justified. If his system is perfect anything new in the same line must be superfluous, and I think if he had been cautious enough to have read my letter before writing he would certainly not have been so sweeping in his verdict; whilst, on the other hand, if I had for one moment the least grounds to suppose that a gentleman of Mr. Green's ability was capable of such negligence, I should, no doubt, have been more lenient, as I have not the least desire to enter into any altercation with anyone, but I object, and very strongly too, to having my name so closely associated with that detestable section of society, whether accidentally or wilfully. Considering, then, that Mr. Green had not read my letter, and, therefore, could not possibly have included me in the group, I accept his explanation as ample apology, and in order to put an end to the matter I hope that gentleman will consider my acceptance of his explanation sufficient apology on my part.

I endorse what I have already said respecting the apparatus, and am pleased to say it is now being supplied to parties who will shortly be able to testify as to its value, to whom I prefer leaving the matter to having the appearance of blowing my own trumpet. Those who have had the best opportunity of judging express great confidence in it, and I have no doubt it will shortly be generally adopted. If it turns out as we have abundant reason to expect from the experiments already made, it will dress in 20 square feet as much slime as is now dressed on on acre of ground, and, as I have already said, with 1-20th the first outlay and 50 per cent. less cost, and at the same time economise the enormous waste so much complained of everywhere, and as Mr. Francis very justly remarked in his letter of last week, it prevents the escape of this waste mineral and the consequent pollution of rivers. If you calculate the quantity of water flowing through a 16-in. pan and compare it to the thin sheet passed over buddles and frames, giving it the same velocity in each case, the difference in the quantity of ground covered is enormous, but the velocity in the slime dresser is at least from four to five times greater, and, therefore, constitutes this astonishing difference in the quantity of ground occupied, which not only economises ground, but the enormous sheds and buildings necessary to cover the old floors.

As to its classifying and separating, I think if anyone who understands the laws of buoyancy and gravity will carefully examine the principles of the apparatus, they will not only see that it cannot fail to do so, but that it is constrained by those laws to yield up every particle of ore in one operation which it is possible to extract in wet dressing without any labour or cost of any sort where a slight fall of water is available, and where this fall is not available this cost of lifting the water the required height would not exceed 1d. per ton of ore treated.

As to entering into competition with Mr. Green I never had the remotest idea, but am willing, after 20 years apprenticeship in this department and mining generally, to lay my ideas before the public for what they are worth, and my only motive in this case is to put a stop to what has long been known to be a serious drain on the pockets of the adventurers, and at the same time to do what good I can for my family, and I only wish there were a great many more pushing in the same direction, feeling confident there is ample room for improvement. Although in saying this I do not wish to depreciate the value of Mr. Green's patent, who has the honour, I believe, of having introduced the automatic jigging into this country, and I have often expressed my surprise that it is not more generally adopted; and although we differ a little as to the names of the apparatus, I quite agree with that gentleman that buddling, as it is termed in this country, has long been superseded on the Continent by what is called the "table à secousse," and I have introduced a similar thing in this country called a vanning machine, which being a little more scientifically handled gives it greater dispatch, and is far superior to the round buddle, completing its work in one operation, but it has the same defect as all the machines on the incline plane principle, as pointed out in my last, so that it appears to me that all gravel and sand will ultimately be treated by the jiggers throughout the world, and the slimes by something more effective than either in use, whether it be by the apparatus I have in hand or any other remains to be proved to the public.

In conclusion, I beg to say I am sorry Mr. Green should have found the crockery bill so heavy, and I venture to hope, provided he keeps the warehouse door shut, it will be very much more moderate in the future.—*North Shields, Oct.* 28.

W. NANCE.

STEEL v. IRON RAILS.

SIR,—Having perused a letter, signed F. G. Field, in the Engineer of the 17th inst., referring to one of the 16th ult., drawing a comparison between the number of steel rails that had been broken in Canada as against the almost total absence of breakages of iron rails in Sweden, and also quoting portions of a letter addressed by Mr. Sandberg to one of your contemporaries, setting forth his opinion of one of the leading causes of the numerous breakages of steel rails, allow me to observe that the value of steel rails as compared with that of iron has not up to the present time been sufficiently established, and there are many matters to be taken into consideration before railway engineers will be able to ascertain which of the two materials will be the safer and the more profitable for the railway companies to adopt.

It is admitted that the surface of the steel rails will wear longer than that of iron; on the other hand, the wear and tear of the tyres of the locomotives, carriages, and wagons must be taken into consideration, and also that the tyre of each wheel has to pass over 220 joints in each mile it travels, and, therefore. must receive that number of concussions.

Now, if the tyres are harder than the rails they will rivet over the ends of the railway bars, and will produce that which is commonly called by the platelayers "spewing out," meaning a spreading out on the sides of the ends of the rails, the consequence being the parts so spread out come in contact with the flanges of the wheels and cause the carriages to oscillate, thereby making it not only uncomfortable but dangerous to the passengers.

Or, *vice versa*, if the steel rails used are harder than ths tyres, then the tyres must necessarily receive 220 blows and indentions to each mile and become rough, making the traverse of the tyres much more uneven on the steel rails than on the iron ones, and necessitate their being much oftener turned and sooner worn out, therefore it becomes a question as to the cost of the repairs required to be done in consequence of the extra wear and tear of the rolling stock caused by the use of steel rails.

As a large holder of railway stock, and having been connected with one of the greatest railway companies in the kingdom, permit me to say that this subject is of such serious consequence to the shareholders, as also to the public, that the sooner it is settled the better, for if we have such a number of rails breaking as stated in the paragraph referred to we must necessarily have an increased number of accidents therefrom, and the compensations to be paid, as well as the serious cost of repairing and renewing the rolling stock, must be taken out of the moneys that should go to the shareholders as dividends, therefore it behove everyone connected with railway interests to use all existing means to prevent such accidents from taking place. The following means being well known I wish to call serious attention to them, as it is surprising to me that they have not been generally adopted before this—Tooth's Roller Rail-Straightening Machine, which straightens both sides of the bars by simply passing them through the rollers once at a black heat, which effectually prevents any damage being done to them in the process of straightening (which is not the case under the present system), and by passing them through once again edgeways. The machine straightens the top and bottom at the same time, producing an equal pressure all along the bars, and also effecting a great saving of labour.

There is also his patent rail-cutting machine for cutting the rail ends to a mitre, which will not be more expensive than the present mode of cutting at right angles, and in my opinion the rail ends should be cut to a mitre for the following reasons:—On Monday, the 20th inst., I visited the Great Eastern Railway Company's station at Stratford, where last December some of the patent mitre joints were laid down for a test, a description of which was given in the Railway News on Jan. 25, 1879, and afterwards in the Builder, and other papers. I found the ends of the railway bars to be as perfect as they were when laid down, the surface having been worn perfectly level and fair, and the points of the mitres had not been in any way affected, and there was no "spewing out," or spreading, at the ends of the bars, notwithstanding that the heavy goods traffic for shunting was constantly passing over the joints, and it was not considered that they required any other fastening than fish-plates.

There being no spreading out at the sides of the ends of the rails there was no oscillation, for the simple reason that there was no projection for the flanges of the wheels to come into contact with. The joints will admit of the rails contracting even to the extent of half an inch without causing any noise or jolting by the wheels passing over such joints; therefore, there must be less liability to accident through breakage of wheels, tyres, axles, springs, plates, and couplings, besides the advantages to be obtained in the saving of the wear and tear of the rolling stock and permanent way.

Oct. 29. H. WORSELDINE.

DEPHOSPHORISING IRON.

SIR,—It has several times been stated by Mr. I. Lowthian Bell, as the view resulting from his scientific researches in connection with the metallurgy of iron, that a low temperature is essential for removing phosphorus, but Mr. Fritz Osam, of Düsseldorf, who has also given considerable attention to the subject, finds that phosphorus is oxidised by iron oxides, even at a high temperature, supposing that the slag present be of a very basic constitution, and that the vessel containing the metal which is to be dephosphorised be lined with a basic or neutral material, or at least with a material which is very fireproof, and withstands the attack of the basic slags. Common grey pig-iron, containing silicon and phosphorus, is treated in the Bessemer converter as usual till it is either almost decarbonised, or till it is at least so far refined that the silicon of the pig has been removed as far as desired, and that by burning the silicon such a high temperature has been attained that the metal may be kept fluid during some time. Since a certain percentage of manganese supports the fluidity there can be made to the charge an addition of spiegeleisen or ferromanganese. When the charge is converted or refined as far as desired it is poured in such a manner as to keep back all acid slags which have been generated during the blast. If the slag be stiff it may be kept back by a rake or other appliance; if not there can be interposed a short channel with a bridge or funnel. When the metal has been separated in such a way from the acid slags it is brought into contact with iron oxides by any means.

Any form of furnace, rotating, oscillating, or fixed, or the dephosphorising may even be effected in the ladle itself. The metal when settled in the ladle has lost by its contact with the iron oxides most part of its phosphorus and sulphur, and all silicon and manganese. The metal must now be separted as soon as possible from the phosphoric basic slag, and is, therefore, tapped from the bottom of the first ladle into a second ladle The additions which are necessary

for introducing manganese, and if wished also carbon and silicon, are spread over the bottom. There is also spread some fusible substance, which is destined to protect the metal by a slag covering, such substances being glass scraps, acid slags, or equivalent materials.

The additions are chosen according to the destination of the finished metal, just as in the Siemens-Martin or in the usual Bessemer process. However, it will be the best to work the metal which has been cleaned by this method into mild steel. These are, however, matters of detail which will be determined by the judgment of the operator, the essential part of the discovery being the fact that the phosphorus is eliminated at a high temperature.—*Newcastle, Oct.* 25. CUPOLA.

MONOPOLY OF THE WORLD'S CONSUMPTION OF STEEL BY SWEDISH LAPLAND.

SIR,—My letters of Oct. 25, 18, 11, and 4, Sept. 27 and 13, and Aug. 30, 23, and 16 in your Journal, it may be truly alleged, have well nigh exhausted the subject matter of Swedish Lapland steel. A contemporary in a lengthened report of the 17th inst., from Stockholm, states "The project of a railway from the Gellivare Iron Mines to the Gulf of Bothnia has for its avowed object the utilising the immense deposits of iron ore at Gellivare." The Chairman of the meeting of shareholders of the New Gellivare Company (Limited), its predecessor, the Gellivare Company (Limited) being in liquidation in Sweden, held on July 31 last, asseverated said railway scheme was the redeeming feature of their undertaking. Considering it *infra dig.* to quote the Scottish bard as a civic knight is above the breath of suspicion, I challenge this gentleman, just returned from Sweden—no one's proceedings in the present epoch being hid under a bushel—to make good his allegation in as far as regards the precited object. Motives of action are matters of opinion, and may be variously judged, but the actions themselves are matters of fact, and can be judged by anyone who will use his eyes. With 7*l.* a ton loss on their iron consigned to London by their printed accounts, with the iron ore costing, by their latest accounts, double the price in Sweden of the Porman iron ore delivered *ex* ship in the Tyne, and about 50 per cent. more in Sweden than the Elba, or the rich Algerian, or the manganiferous iron ore delivered *ex* ship in the Tyne, and 80 per cent. more in Sweden than the red Campanil Somorrostro, or the best brown Bilbao iron ore delivered *ex* ship in Tyne, imported for mixing, and for conversion into steely iron, yclept steel. Some opinion may be formed even by the uninitiated when the freight from the Gulf of Bothnia is added of 20s. a ton from a seven to eight months ice-bound port to this country, which is the average decennial rate from Lulea, the Gellivare iron ore will cost 220 per cent. more than the best Bilbao iron ore *ex* ship in Tyne, from which port by far the largest quantity is exported. If the railway existed at the present moment, in lieu of being, as stated at aforesaid meeting, *in nubibus*, the Gellivare iron ore, or manufactured iron, could not be brought to this country except at an appalling loss, or to any other country. The minimum railway toll and the sea freight alone, exclusive of extraction and shipping charges, without any profit to the company, render the sale of the ore, iron, or steel perfectly nugatory.

I invite the directors of the New Gellivare Company (Limited), present and absent at the aforesaid meeting, to declare their adhesion to the Chairman's inaugural speech that they are not implicated in the scheme beyond the 1364*l.*12s. 3d. towards preliminary expenses, for which amount they will be held responsible, and which they will do well to revoke The Gellivare *cataclysme* is too disastrous and far too important for the future supply of steel to be shelved. If the directors connect themselves directly or indirectly with the railway project is it befitting that they retain their seats at the Gellivare board? As to the concession they demand, it cannot for a moment be imagined that any department of the Swedish Government will so far stultify itself as to concede a single trunk of a tree on the Crown lands in favour of a railway having for its object the transport of ore, indubitably resulting in an awful loss. The Swedish Diet can never entertain, much less ratify, such a matter. The royal family possess large forests &c., in the district, but if the present monarch be imbued with the noble and lofty character of his late father—King Oscar—who condescended to vouchsafe me an audience upon this very matter in the castle at Stockholm, His Majesty will, on perusal of this, command an enquiry which will result in no concession being granted. I shall take good care that this letter reaches this august personage, by the insertion of those well understood words by his entourage, "En propre main de la part du Sieur W. J. Thompson," &c. My precited letters will show His Majesty that a gravitation railway can be constructed for an infinitesimal amount, affording transport to an always accessible port in the south-west of Sweden at a tithe of the rate of a surface railway, and benefiting the entire country. The Bonde-Stand, possessing a large majority in the Diet, will derive an incalculable benefit from a gravitation railway. The Commerce-Collegium, &c., will also be duly informed of the whole case.

My sole aim is to secure for the invaluable deposit of Gellivare ore a practical and remunerative outlet, which it is utterly impossible to effect by any surface railway to Lulea, and subsequent shipment by steam or sailing vessels to this country. This country is deeply concerned in a supply of pure steel free from phosphorus and sulphur.

Little Tower-street, Oct. 29. WM. JOSEPH THOMPSON.

FLAGSTAFF MINING COMPANY.

SIR,—You are well aware how closely I watch the affairs of this company, and that I have access to authentic sources of information. I now claim credit for the accuracy of the information I have been allowed to give the shareholders through the medium of your columns, and I now beg to point out that what I have from time to time predicted has come to pass. A letter in the Journal of last week, signed "Observer," provokes me to trouble you with a few remarks to-day. There is no foundation for the outrageous assertions therein made, and the writer must be either the victim or the tool of some designing person. There has been, during the past fortnight, a rise in the price of shares which, from a nominal shilling or half-crown, have sprung up to 7s. or 10s. I associate the appearance of this encouraging letter with the upward movement in question, which is as remarkable as it is unwarranted. Why, Sir, the company has no property at all! and it is a matter for the Stock Exchange Committee whether the name "Flagstaff" should not be struck out from its official list. Some time last spring the Supreme Court of Appeal of the United States gave judgment at Washington that the company's title was restricted to the lines of its patent; that means, that the company were entitled only to so much of the Flagstaff lode as the intersection of the lines of the patent on the lode would cover, that is to say, just 100 ft. I have previously pointed out, and now reassert most positively, that that 100 ft. was taken in execution by judgment creditors, who sold their title to a banker at Salt Lake City, who resold it to Seligman, of New York, who incorporated the property with the adjoining locations on the lode, and who in conjunction with the owners of those locations has formed the "American Mining Company," which is now and has been for some months past developing and working the mines.

These are the properties that I told you in a previous letter had been offered for sale through Mr. Pearson (the trustee of the debenture-holders) to such of the share and debenture-holders as might see their interest in purchasing the same. I have said, and I repeat it here, probably for the last time, that a liquidation of the present company must precede the acquisition of the estate by the shareholders. I meet with members of the present company who have been stuffed up with such nonsense as that the company will regain its property, that the shares will recover their value, and even go to a premium, and that by a subscription of 1*l.* per share (which would amount to 30,000*l.*) the former supposed holding of the company could be acquired. But consider for a moment what a purchase that would be! It would be the purchase of a property loaded with debt. I am afraid to say how much, but 40,000*l.* or 50,000*l.* Now, all these important facts are kept from the shareholders. The Act of Parliament providing one annual general meeting for the safeguard of shareholders has been ignored, and when in July last the directors received official information of the result and effect of that judgment at Washington, not one word of information was issued by them, and the great body of shareholders, to say nothing of the public, are entirely in the dark as to what has taken place. I allude passingly to the public, but not without a reason, for it is conceivable that there are some who, misled by the aforesaid movement in prices, may suppose that there is a property represented by these shares, when, in fact, there is none. I speak of the directors neglecting their duty—but who are they? For many months past there have been nominally three, practically one. And what has he been doing? He whispers flattering tales in men's ears, and asks them to subscribe money for the purposes of the company.

I have seen a letter in which a shareholder says that he was induced by this active director to give some money for which he received as a security a debenture of the company. This questionable feat was performed after the legal decisions above referred to had been given. Now, the debentures are issued under, and secured by, a mortgage—that is to say, a mortgage upon property the title to which has been finally pronounced to be vested in other than the mortgagor. What, then, is the value of either the mortgage or the debentures? I am aware that Mr. Pearson has long had in his hands the refusal of the various properties on the lode, and he thinks that something might be done by judicious treating with the present holders to improve the position of his *cistui qui* trusts. That is quite conceivable, and I am at a loss to understand why the debenture-holders do not give his plan prompt consideration. Prompt consideration is necessary because the petitions for a liquidation will come on early next month. I know of nothing to prevent a winding-up order being made. Speaking as a lawyer, I say that the Court will deem it to be in the general interest of the public that a company which has no *raison d'être*—a mining company without a mine—should cease to be a delusion and a snare, and—wind it up.

LAWYER.

THE FLAGSTAFF SILVER MINING COMPANY OF UTAH.

SIR,—Having noticed a statement in last week's Journal to the effect that the owners, or reputed owners, of the Flagstaff and adjoining locations, "on the Flagstaff lode," have just placed the "refusal" (whatever that may mean) of the various properties in Mr. Pearson's hands, and suggests that the matter is worthy the attention of the Flagstaff shareholders, and that the readiest means of dealing with the question will be by calling a general meeting. I feel it my duty to intimate that the shareholders would, perhaps, do well to receive such representations with caution, having in view the fact that Mr. Pearson has asserted for the last six or eight months that he was empowered to deal with the property, but upon applications repeatedly made to him he would neither confirm the statement by the production of any documents or verbally mention any price or terms, or give any satisfactory information whatever in respect to the same. Hence it will be evident that the directors would not have been justified in calling the shareholders together from remote parts of the country to attend a general meeting, which could do no good to anybody. As I intimated in last week's Journal active steps are now being taken, and I may add the same are being strongly supported by efficient parties for re-acquiring the property and putting matters in the interest of all parties upon a stronger basis.

London, Oct. 29. A. A. DE METZ.

MINERAL WEALTH OF UTAH.

SIR,—Referring to the article in the *Mining Journal* of Sept. 27, will Prof. J. S. Newberry be kind enough to explain how he will "extract gold ore out of any of the Bingham gold mines for $3\frac{1}{2}$ per ton." And further, how the Professor can "mill the same ore for $3\frac{1}{2}$." As it seems an impossibility to me that such can be done "at Utah prices," I am most anxious to learn from such a high authority as the Professor is reputed to be, and want to do everything for the benefit of such as deign to employ me.

Salt Lake City, Oct. 14. WM. BREDEMEYER, M.E.

SENTEIN MINE.

SIR,—By the printer's transposition of the word "weekly" in Mr. Lean's report of the Sentein Mine, in the Journal of last week, an erroneous impression is conveyed. The lead produced weekly at the mine is from 25 to 30 tons; the blende from 30 to 35 tons. The sales to date are (from June 28, commencement of dressing operations) 310 tons of lead and 300 tons of blende, with another 100 tons of lead and 200 tons of blende now sampling.

J. R. COOMBS, Secretary.

LEAD AND LEAD MINING—VI.

SIR,—I think I may fairly claim that my anticipations have been fully realised, having now some months back predicted a rise in the price of lead at a time when everything was very flat, and the price of pig-lead under 14*l.*, and it being now over 17*l.* And it must be remembered, as I have said before, that the demand for lead is always slack in the winter, for the obvious reason that all building, painting, and similar undertakings are almost entirely suspended, consequently it is but fair to assume that if we have a rise now we may expect a still further, and perhaps more substantial, upward movement in the spring, and in the meanwhile I have no fears of any reaction. We must always bear in mind that the demand for lead in this country has been for many years much greater than the home production could possibly meet, the imports being in round figures about 100,000 tons. The sources which have hitherto supplied the deficit are now we know themselves short. It is more than improbable that America can spare us any, and Spain certainly not sufficient to meet the deficiency, always presuming that 1880 will be an average year, as far as the consumption of lead is concerned, but I maintain that it will be more than an average one.

The very inclement weather during the spring and summer led to a very limited amount of building or painting; this will naturally be carried forward to 1880, and will cause a very urgent and pressing demand, which the present stocks, together with any which may be accumulated from home mines, are utterly incompetent to meet. Therefore we shall probably see pig-lead at 21*l.*, possibly at 23*l.*, next March.

Presuming these figures and anticipations to be accurate, it is obvious that there will be great activity in lead mines, and that shares in these securities must be much higher. To those, therefore, who are inclined in favour of mining investment the present opportunity is a good one, and although such investments must always more or less partake of speculation, the risk on this occasion is reduced to a very minute minimum, whilst, on the other hand, the possibility of large gains seems almost insured. Of course there are undertakings either so rotten and so hopeless inherently, or so overburdened with capital that no rise in the price of lead ore would make them remunerative. To indicate such concerns would be dangerous; to indicate all impossible for one writer. Intending investors must trust to their good luck to avoid them. Most of the highly spiced prospectuses which appear in so-called investment circulars, which are forwarded by thousands free, are undesirable investments, and had much better be let alone. Thousands, nay tens of thousands, of pounds have in this way been forwarded to wholly irresponsible parties, who have only given worthless scrip in return for the hard cash they have pocketed.

There is a wide difference between subscribing money direct to a limited company, with responsible directors and officers, and on the other hand sending money to purchase secondhand shares from some circularising sharebroker, who is probably not a member of the Stock Exchange, or perhaps has been expelled from it for not meeting his liabilities. The plan is so simple. I take up a lease of some property, if possible adjoining some well-known mine, whether east, west, north, or south matters not. I form it into a company, say 50,000*l.*, purchase-money all in shares, say 25,000*l.* I then commence puffing the prospects, and strongly advising the purchase of shares. Mark this, that probably not one penny of working capital has been subscribed; that is mere matter of detail to which these gentlemen pay no attention. You, the unfortunate public, send me one, two, or three hundred pounds every morning, in return for which I give you my vendor's shares, and when the whole lot has been cleared out the thing collapses.

This has been done over and over again on a credulous public, and will continue to flourish until the whole system of mining investments is changed, and that may be sooner than some of these gentlemen will like. The system of buying mining securities on the faith of a circular recommending their purchase is simply preposterous. Would any country gentleman buy a horse on the mere strength of a circular puffiing the virtues of the animal, and yet this is what is done every day in mining securities, and the result is that so many people have lost money that the very name of mining stinks in the nostrils of the monied class, and an honest and legitimate industry suffers and languishes for want of capital, the investment of which would amply repay the investor, add to the capital and wealth of the kingdom, and afford employment to a hardworking and industrious class.

HOPEFUL.

DUCHY GREAT CONSOLS.

SIR,—With your permission I beg to ask the debenture-holders of the above who, no doubt, are readers of the Journal, to be good enough to say whether anything is known in reference to the division of assets and receiving of statements of accounts in connection with the liquidation of the mine. By letters which I received from Mr. W. Webber, solicitor, Queen Victoria-street, dated respectively March 16 and Dec. 19, 1878, I was informed that on the suit of "Stoddart and the Company" being brought to a close, and the taxing, &c., of costs perfected, the debenture-holders would be paid the surplus funds. It is now ten months since that, and nothing has been heard of the matter. I renewed my application on the 13th inst. to the solicitor, but have not been favoured with any reply. Therefore, taking everything into consideration from the first floating of this company to its sudden wind-up, I think I may fairly question the correctness of issuing the debenture bonds.—*Dublin, Oct.* 27. R. BOYD.

CORNISH MINING ENTERPRISE.

SIR,—It is at times desirable—nay, necessary—to take a retrospective review, both materially and speculatively, of mining adventures to determine their merits, and also for guidance in the selection of particular mines for investment, for it must ever be remembered that investment and speculative dealings or gambling are as wide apart as the poles are asunder. The true investor, if he would win, must graduate as a student of his science; he must call forth painstaking labour to his aid, or he deserves to lose his money. The reckless speculator and gambler is the man who reads nothing. He blunders on, listens to all that wise and foolish say, and does, unfortunately, something. This he does right or wrong, especially if he has not the money wherewith to pay differences. The iniquity of this is so transparent that it is extraordinary that the rationality of honorable principles and sound equity which thinking humanity is supposed to possess in rightful tenure can for an instant permit or tolerate, and far less recognise, the jobbing proclivities of, we fear, the majority of the members of the Stock Exchange in such transactions.

It is not our purpose to refer to particular mines or particular instances of reckless speculation and gambling by members of the Stock Exchange; it will suffice for our object to review three or four mines prominently before the public over the years 1682 to 1879—a period of 17 years. See the *Mining Journal*, Nov. 2, 1862. We refer more especially to Carn Brea, Tincroft, Dolcoath, and West Seton. The vagaries and anomalies of the mining markets and the various adventures dealt in are not now under discussion, but we think that all reflective and *bona fide* investors would do well to consult practical authorities before making a selection, as the variations in market value and gains of the four mines referred to are enough to satisfy even the most uninitiated financier that something more than that which swims on the surface is necessary to be learnt before embarking in mining adventures. There cannot be a question raised in opposition to legitimate mining, but there is every objection to embark into heavily loaded speculative undertakings, wherein in case of success the oyster is eaten up at starting.

Carn Brea shares in November, 1862, sold for 65*l.* each—say, 65,000*l.* for the entirety. The dividends up to that date amounted to 279*l.*10s. per share, or (say) 279,500*l.* The price of tin at that date was 124*l.* per ton; it is now 94*l.* to 96*l.* per ton. The history of this mine over the period of 17 years is—Calls 41,375*l.*, and dividends 29,500*l.*, of which 15,500*l.* was divided in the year 1872, when the property had advanced in market value to 160,000*l.* This company now sells for 55,000*l.*, and is indebted over assets the sum of 12,563*l.*, so that the actual gains during the remaining 16 years were on balance only 1437*l.*, although 14,500*l.* were paid in dividends. The market value is now 55,000*l.*, being 10,000*l.* less than in 1862, and 105,000*l.* less than in 1872. In addition to this debit balance of 12,563*l.*, it must be remembered that calls of 41,375*l.* have been made, so that on balance the indebtedness and calls amount to 24,438*l.* over and above the aggregate dividends for the past 17 years.

Dolcoath Mine in the year 1862 was marketable at 204,060*l.*, upon a capital paid up of 46,137*l.* The aggregate dividends up to that date, so far as they could be verified, stood at 245,767*l.* The number of shares at this date was 358, upon which calls of 128*l.* 17s. 6d. had been made. From sub-division the number of shares has been increased to 4296, and in the year 1872 the dividends being 45,645*l.*, or close on 100 per cent. profits. For the nine years—1863 to 1871 inclusive—the dividends were 139,620*l.*, or just an average of 15,113*l.* a year—over 30 per cent. on capital, while the market value had risen close on 84,000*l.* The dividends for the year 1873 fell to 19,332*l.*, and at the close of the year referred to tin stood at 117*l.* per ton. For the next six years—1874 to 1879 inclusive—the value of tin gradually diminished, and over this period the dividends in the aggregate have been only 60,620*l.*, or (say) an average of 10,103*l.* a year. At the last audit of accounts the following statement was presented. It will be seen that the average price of tin ore sold was about 42*l.* 10s. per ton. The price of tin is now advanced to 96*l.* per ton, and the standard is 83, so that smelters are prepared to purchase tin ores containing 13 out of 20 metal at 52*l.* per ton; thus the future is fraught with enhanced value in the hope of tin keeping up in price. This, however, is discounted in the increased market value of shares from 20*l.* to 52*l.* 10s.—just a leap from 85,920*l.* up to 225,541*l.* The report at the meeting is the most satisfactory as to continued yield of ore in depth of any previously issued:—"A three-monthly meeting of adventurers was held at the mine on Monday, Mr. Mark Guy Pearse in the chair. The financial statement showed that the labour costs, merchants' bills, poor and way rates for the 12 weeks amounted to 12,282*l.* 12s. 6d. On the credit side there was—For 386 tons 1 cwt. of tin sold (less dues), 15,941*l.* 15s. 5d.; extra carriage of tin, 14*l.* 3s. 3d., making a total of 15,955*l.* 18s. 8d., and leaving a profit on the quarter's working of 3673*l.* 0s. 2d., which, added to a balance of 1522*l.* 11s. brought forward from last account, made the credit balance 5195*l.*, out of which the committee recommended that a 10s. dividend per share (2148*l.*) should be paid, which would leave a balance of 3047*l.* 17s. 2d."

Tincroft at the close of the year 1862 sold for 13*l.* 10s. to 14*l.* per share, 9*l.* called up—(say) 81,000*l.*, on 54,000*l.* paid up capital. The dividends up to this date were 71,550*l.*, and that for the year in question was 6000*l.*, against 4500*l.* for the year 1861. The price of tin at the close of 1862 was 120*l.* per ton refined. The dividends for the year 1863 were 12,000*l.*, and the market value advanced to 18, 18½, or (say) 37,500*l.* on the entirety during the year when tin at its close stood 3*l.* less than a year before. This mine up to the close of 1871 inclusive—say, eight years—gave dividends of 124,500*l.*, raising the total to 208,050*l.* The next year this mine was at its zenith, paid dividends of 48,000*l.*, and commanded a market value of 342,000*l.* Since this period the dividends have declined annually until a total collapse took place in May, 1877, when 5s. a share was distributed. The price of shares in August last was 8*l.* each—(say) 48,000*l.*—but a call of 15,000*l.* had been previously made, and the company at its last meeting showed it was 6000*l.* in debt to the bank. The value of tin, as before stated, has greatly risen, and the shares in two months advanced 100 per cent. Should tin even maintain present value the mine at 100,000*l.* is 20 years' purchase at 10,000*l.* a year profit to recoup the principal and 5 per cent. interest. These desiderata are of moment to the investor, while shareholders who hold should well weigh their responsibilities.

West Seton in 1862 had called up 19,000*l.*, had declared dividends of 145,200*l.*, and sold for 100,000*l.* Since this date calls of 11,600*l.* have been made, and the market value stands at 25,000*l.* The dividends for the year were 3600*l.*, and the market value ranged as low

as 18,000*l.* The total dividends, as recorded, amount to 267,000*l.*, on 30,600*l.* capital, hence the shares stand at a discount of about 20 per cent. The prospects of this mine are regarded by practical resident agents and experts as good, but the investor must not sail on the surface current of events if he desires to rest his dealings on sound and legitimate principles, based on solidity, coupled with fruition and future expansion or exhaustion, he must exercise common sense, and judge for himself. The uninitiated should not venture to embark without consulting mining authorities, and of practical experience.

The Peevor, Eliza, and South Condurrow are three sound expansive mines, and are well worthy the attention of the disciple of the Science of Investments. It is the shallow and mineralised deposits of ore to which attention should be directed; we are pleased, however, to call attention to Wheal Friendly, a syndicate to work which is now being formed; a few capitalists with 50*l.* to 100*l.* can now be introduced upon favourable terms, so as to secure certain and substantial gains. *Nil desperandum* is the watchword, as perseverance is the harbinger of success in mining enterprises.

Cornhill, Oct. 29. R. TREDINNICK,
Consulting Mining Engineer; Dealer in Stocks and Shares.

MINING IN CORNWALL—THE CAMBORNE DISTRICT.

SIR,—The recent advance in the prices of tin and copper have caused great excitement in the Camborne and Redruth districts, besides the fact that many of our mines are improving in value as they become deeper. It is the opinion of a great many old miners that the valuable tin lode so rich in East Pool, and lately discovered in South Crofty, also traverses the old North Crofty and Wheal Seton setts. These famous mines were very productive in copper, and afterwards made large returns of tin, and experienced miners who have worked in them believe they could be worked at a good profit at the present price of tin. By driving the levels east in North Crofty they would soon come in contact with the granite, which in the cases of South Crofty and East Pool have proved so productive for tin. Upon North Crofty there is still standing an 80-in. pumping-engine, also a winding-engine, with their boilers, &c. The mine was abandoned through a dispute, and the materials were not drawn up. The pitwork is in good condition, with skip-roads, &c., standing in working order. The engines belong to Mr. W. Bennetts, of Roskear, Camborne, who has repaired them, and I have been told the pumping-engine is powerful enough to drain both mines. There were some valuable discoveries of tin made in the eastern part of North Crofty just before it ceased working, and Wheal Seton was not abandoned from poverty, but from causes pretty well known in the Camborne district. The working of these mines would be an inestimable boon to the Camborne people and district generally, as they would employ a great many hands, and many people about would willingly take shares in the undertaking, for if judiciously managed they would probably be soon on the Dividend List. The sum of 30,000*l.* would lay out all the plant, &c., and set these mines in full operation, so I think this an excellent chance for speculators in mining. A. W.

Oct. 27.

ROCHE FELSPAR WORKS

SIR,—It is a long time since any communication has appeared in your valuable Journal in reference to the above company's works. On Tuesday last I availed myself of an opportunity to visit the works with an old friend of mine, and well were we pleased with our visit. We had a thorough look through the entire property, which is, I should say, a large one. The present company I find since my last visit have greatly enlarged the old quarry—driven two drifts towards the southern boundary of the sett. I was never more impressed with the sterling value of the property than on Tuesday. In the southern drift a far superior bed of spar has been discovered than (I was informed) was ever before seen in the whole property. The spar at the end of the southern drift is of a far better colour and quality than has hitherto been raised, and the farther the drift is extended into the hill the better the spar. I may say there is a hill over 900 ft. high at the south boundary of the property, so that by a short drivage a considerable depth would be obtained. There seems to be an inexhaustible supply of felspar in the company's property, and of a very good quality. At the dressing-floors really magnificent specimens of felspar are at present to be seen, some ¼ cwt. of solid spar. I was informed that about 350 tons of spar are at present ready for shipping. There are also immense quantities of a second quality of spar lying about the surface of the property which I should think could be made marketable at a very trifling expense. This second quality of spar is quite equal to any Norwegian spar that I ever saw. I should presume that large and very remunerative returns could be made from the burrows by hand picking or grinding it down to a powder. In some parts of Ireland this process has been carried on with great success—felspar thrown over the debris heap being ground, and thus made marketable. I should say that this second sample of felspar would be suitable for the North of England glass manufacturers and bottle makers; there are very large quantities at surface, and in a short time very large quantities could be raised, and at a cheap rate.

In conclusion, I may say that I am of the same opinion as I have previously expressed that the company has a grand property, which by proper manipulation cannot fail to be a source of giving them large and lasting dividends. AN OCCASIONAL CORRESPONDENT.

EAST CREBOR MINE.

SIR,—So much has been heard of late in mining circles of the extensive discovery of copper ore in Wheal Crebor Mine, and the refreshing influence it has had on mining in that district, that, being in the neighbourhood a few days ago, I could not resist the temptation of visiting for myself the region where this discovery has been made. And the visit well repaid me for doing so. I did not attempt to go underground in any of the mines, as my object was rather to note how "the land lay" than to examine any particular mine. By drawing a line due east and west through the line of Wheal Crebor, I found myself in the centre of one of the most remarkable pieces of mineral ground in the Western Counties. Coming eastward about eight miles to the west of Tavistock we have Holmbush Mine, and others in the Callington district north of that town. Then going east, Dimson, Old Gunnislake, Liscombe, Hollichom, Rantorgator, or East Wheal Russell, better known as Wheal Crebor. Old Crowndale, which is the mining ground now known as Wheal Crebor, followed to the east by East Crebor, Rixhill, Anderton, and many others running east to the granite ranges of Dartmoor. Deviating a little to the north or south of this line, still running from west to east, we have the large mineral country known as Devon Great Consols, Walreddon, Sorterage, and many others.

The Wheal Crebor is the Crowndale Mine of former days. In it the rich lodes now laid open run eastward, and whatever the speculators of the market may say, the ore in richness and size gives all the promise of permanence for a great while yet to come, and is known to contain several lodes upon which little or no work has yet been done. The main Crebor north and south lodes are undoubtedly those which have been worked on to a shallow depth in East Crebor. The north and south lodes by their underlie will come together in about 8 to 10 fathoms sinking, and the past experience of this mine shows that the lodes contain copper ore of a quality richer than any in the district.

Several experienced workmen with whom I conversed, who have worked in both mines, gave their opinion that share for share East Crebor was the richest mine of the two. The present East Crebor Company have a large piece of ore ground south of the line I have drawn about, which in addition to the north and south Crebor main lodes contain the lodes formerly known as the Gunnislake lodes, and on a former working of this part when known as West Rixhill the miners sunk a shaft, and cut a rich copper lode in maiden ground, which is unworked to this day. Besides that, the same party drove an adit, and a tin lode of great strength was cut—doubtless one of the three lodes which run further eastward, and yielded rich returns in Rixhill and Andeton Mines. The East Crebor Company have ore ground before them in extent and quality likely to keep them employed for all the 21 years they hold the sett, and for probably a renewal for a like period. Within a mile of Tavistock town, with the Great Western Railway there, and the River Tavy on the west, I can hardly conceive a more favourably situated or richer area of mining ground, and I must congratulate the proprietors on having so good a lookout ahead of them. Old Crebor paid dues to the owner of the land of over 14,000*l.* in seven years, and I hope that East Crebor with the same lodes to work on, but richer as they come east, as they have already been found to be, may be able to show equal or better results. AN OCCASIONAL ADVENTURER.

THE LLANARMON DISTRICT—BODIDRIS.

SIR,—Having noticed a letter in last week's Journal, signed "Enquirer," on mining in Llanarmon district, which I think from erroneous information may be calculated to mislead the public in respect to the operations now being carried on in the Bodidris Mine, may I trouble you to insert a few words to say that, being well acquainted with this property, I believe there is no mine in North Wales that has been prosecuted with greater vigour than this mine is and has been since the present company took it in hand. I am in no way connected with the company, and should not have deemed it necessary to make any observation thereon but that my name is associated with the Lady Ann Mine, in which the present prospects are exceptionally good. "Enquirer" says of Bodidris—"Bodidris seems to be going on in its usual way—rather slowly—but I think the shareholders will be sure of a first-rate property here." Now, I think we must for the present concede to the Bodidris Mine the leading spirit of this rising district, in comparison with which other operations in the locality, however kindly, are but a mere bagatelle as regards speed and vigorous handling.—*Northop, Oct.* 28. WILLIAM FRANCIS.

CHEAP LOW PRICED SHARES

SIR,—I am obliged to "Investor," in last week's Journal, for calling the attention of your readers to the value of the Yorke Peninsula Mining Company's property, and quite concur in his opinion as to their ultimate success and great value, and I would strongly recommend the shareholders to hold on rather than part with a single share at anything like the present price. "Investor" might also have called attention to other shares that have been much overlooked, and are entitled to more attention than they have received. With your permission, Sir, I will mention a few mines well deserving a much higher position in the share lists than they at present enjoy:—

1.—PESTARENA UNITED: Shares 3*l.* fully paid; present price (absurdly low), ⅛ to ¼. The mines for many months past have yielded 500 to 600 ozs. of gold per month, and the monthly profit ought to be about 800*l.*, or nearly 10,000*l.* per annum. Bye-and-bye the public will awake up to the intrinsic value of these mines, and shares will be eagerly sought after at many times their present price. The success of this company under its present able management—the Messrs. Taylors—seems to writer to be a certainty.

2.—SOUTH AURORA: Present price ⅛ to ¼. If Eberhardt shares are worth 3*l.*, these should command a much higher price. Should the tunnel now being driven under this company's property develope ore, as it is almost certain to do, these shares cannot fail to command a high premium.

3.—JAVALI: These shares are also quoted very low, and ought to command a much higher price. The quartz for the moment is poorer than usual, but this has often been the case before, and has led on to richer and more valuable ore.

4.—EAST ROMAN GRAVELS (late West Tankerville): This mine is deserving special attention, and will soon take high rank amongst lead mining properties.—*Oct.* 27. X.

BELL VEAN MINE, GWENNAP.

SIR,—The company formed some time since, I am assured, are about to start to work with fresh energy to develope this valuable property. Your readers cannot have failed to notice the remarks that have been made from time to time on this property in your valuable Journal. The mine has first-class chances of success. Penstruthal Mine, adjoining this property, is also to be worked with fresh energy. I predict a bright future for both these properties, and investors would do well to look after them. I hear that some of the best mining authorities in Cornwall are to be called by the directors to inspect Bell Vean, after which shares are to be offered to the public.

NON CON.

CARDIGANSHIRE MINES—ROCK DRILLS AND SLIME DRESSING.

SIR,—Since my last letter appeared in the Journal on these matters a most important event has taken place, and it is this. The rich course of ore found in the New Bronfloyd on the south lode at the 52 has at last been found, after many doubts and fears, to exist, and is much richer at the 73, which should increase the value at least double, as well as double the profits estimated by me that should be given if rock drilling machinery were adopted. That it will be adopted in this country there is now every reason for believing, as at the Temple Mine a new rock-drill has been carried to the mine, and will, no doubt, soon be in motion. At Cwmystwith Edwards's rock-drill has been in use for some time, as well as a rock-drill used at West Esgair Lle, whilst at the Bwlch United preparations are being made to extend the 100 fm. levels east and west by the Eclipse. Now, when these four drills are fairly at work, and the monthly results of ground opened by each made known through the columns of the Journal, it will soon be seen which is the best drill for Cardiganshire mines, as the strata are the same throughout, and the prices for exploring the ground very similar in each mine; and from the results obtained I have no doubt that all the mines that wish to be considered as economically managed must follow or fall to nothing. It is impossible that it can be otherwise, and, therefore, we may predict with certainty that in 12 months from this every mine in Cardiganshire that means profitable working will be supplied with the drill that performs the greatest quantity of work for the smallest quantity of money.

The improved slime dressing apparatus has been ordered for two mines, and that it will be universally adopted immediately there is every prospect. Our mines are also moving satisfactorily. Bryn Glas shares are to be allotted next week, and will afford employment to miners, good sums for royalty to the landowners, and immense interest to the fortunate shareholders, who have taken so many of the shares at par; whilst Nant-y-Mwch list is being rapidly filled with a most influential lot of shareholders, and where if a discovery is made it will cause such a furore in this county as was caused in the next when the Van sprang into existence from apparently nothing.—*Goginan, Oct.* 29. ABSALOM FRANCIS.

MINING IN CARDIGANSHIRE—MACHINERY.

SIR,—I have read with some surprise the letter signed "Shareholder" on the use of rock-drills, and to the assertion that the directors of companies are against their use in that county. I can give that statement a denial, since I personally know many who are in favour of their adoption under certain conditions, one of which is that the manufacturers should take upon themselves the responsibility of the machinery working well before receiving its value. Those who are connected with mines in the Aberystwith district know full well how difficult it has been in the long time of depression and low price of lead to obtain even the capital necessary to work a mine, leaving out of the question rock-drill machinery, which costs something considerable at the outset. It is te be hoped capitalists will, in view of the enhancing price of lead, turn their attention to Cardiganshire, and give the mines the means of showing their capabilities for lead producing. The workpeople are frugal and industrious, and not given to strikes. Writing as I do now in the heart, I may say, of its splendid scenery, and in view of mines which have produced millions of wealth with drills worked by brawny arms, I wonder capital does not flow into it, which if expended judiciously would return largely to the investors. Wealth begets wealth if properly applied, and the earth with its seamy veins is given to man to produce wealth from, and if one tittle of the gold thrown away by this country on worthless foreign loans had been given to the mines in this district, who can tell what large returns would have been got. Some pessimists say—Why speak of such and such a mine having done so and so? Simply to let people know what has been obtained, and what has been obtained can be obtained again, and there is vast wealth for the enterprising. In these times of easy communication it is not a difficult matter to get all necessary information, and it behoves all honest men to combine against unscrupulous parties, who only seek to forward their own interests at other people's cost. At the Bwlch United Mines I am pleased to say the work is being energetically pushed forward, and in a few days stoping will commence. The ore being rich in silver, this mine ere long will enter on the path of prosperity. VERITAS.

Oct. 29.

BRYN GLAS LEAD MINE, CARDIGANSHIRE.

SIR,—I observed a letter in last week's Journal written by Capt. A. Francis, in reference to the above mine, and it affords me much pleasure to be able to endorse his statements. I have known this property for many years, and have been underground on many occasions when it was worked by private individuals. They made large returns of almost pure lead, which only required hand dressing, leaving the poorer class behind them, which can now be worked at a handsome profit by the present company. There are several rich courses of lead left at different points by the previous workers, and by sinking the engine shaft 18 fms. deeper on the course of the lode, and driving levels, thereby opening out fresh stopes, I do not hesitate to predict that a lasting dividend mine will be opened out within a very short time. It may appear presumptuous on my part to state here that I was the first who introduced the Great Van Mine to the notice of the public, and I have reason to be as equally sanguine of Bryn Glas, which is situated within a distance of about 16 miles, as a crow would fly, from the Van, and the vein runs exactly in the same direction—nearly true east and west magnetic; the sun shines on it the same as on the Van. J. W.

BRYN GLAS SILVER-LEAD CARDIGANSHIRE.

SIR,—Profitable investments are naturally always acceptable to the investing public, whatever the industry or enterprise may be, but it cannot be expected that every undeveloped new undertaking brought before the public is certain to prove a success, but were it not for that spirit of speculation fostered by the British public what would have become of our great and numerous enterprises—to wit, our system of telegraphy, our banks, our monster ships, our railways, mines, &c.; in fact, there is speculation in every class of investment. It is well known that mining adventures have proved more remunerative than any others, at the same time more risky, and the public are too liable to be misled by the statements of parties who profess to have a thorough knowledge of practical mining, and who only impose on the credulity of unsuspecting parties. As an instance, a new (so called) mining sett may be purchased without a pick having been put into the ground. A lode is described as having been discovered running through the entire grant, containing cross-courses, parallel lodes, caunter lodes, &c., which too often never exist, except on paper. Capital is then raised to develope these so-called lodes, and lost in vain explorations. Nevertheless lead mines are becoming a favourite medium of investment with the public, owing to the great rise in the price of this metal, which is now about 17*l.* 10s. per ton, against 13*l.* 7s. 6d. some three months ago, and it will probably reach 20*l.* before Christmas. Mining grants are being sought after in different parts of the Principality, but it behoves the public to be cautious, and not to risk their money in any mining property except the same have been proved. Nearly all our great lead mining companies were first worked privately, and the grants proved to contain productive lodes.

The Bryn Glas Silver-Lead Mining Company (Limited) is not an exception. This mine is situate in the centre of the richest group of mines ever discovered in Cardiganshire, such as Goginan, which has yielded 1,000,000*l.* in profits; Grogwinion, 230,000*l.*; Cwmystwith, 1,500,000*l.*; Esgair Mwyn, 500,000*l.*; East Darren 1,000,000*l.*; Lisburne about 2,000,000*l.*; and many others might be mentioned. The Bryn Glas was formerly worked by a few amateur miners, who succeeded in raising more than 3000 tons of almost pure lead from very shallow workings; they did not interfere with the second-class ores. A dispute having arisen amongst them the works came to a standstill, so that the present company has the advantage of coming into possession of a mine already extensively opened out, and containing, according to the estimate of Mr. Harvey, the well-known mining engineer, about 900 fms. of rich ore ground laid open in the stopes. He also expresses his opinion that the principal ore bearing part of the lode where it had been cut into to be worth at least 40*l.* per fathom, thus showing that important and valuable discoveries of lead have been made, not on a theoretical basis, but by practical demonstration and results. It is doubtful whether any mine hitherto discovered in Cardiganshire has produced the same quantity of lead at so shallow a depth, and it is believed by the most competent authorities that upon a further vigorous development one of the richest mines ever discovered in Cardiganshire will be opened out, which will revive the fame of this celebrated district. INVESTIGATOR.

EAST CHIVERTON.

SIR,—I take the liberty of informing "A Very Old Shareholder," through the medium of the Journal, that the lode in East Chiverton Mine is acknowledged by, I believe, one and all who have inspected the mine to be the same lode as in the West Chiverton, proved so valuable. However, as "A Very Old Shareholder" is desirous of having the opinion of some "independent mining authority," I suggest that he elect his own agent to inspect the two mines, orders for which he can have by applying to me.

GRANVILLE SHARP, Secretary.

EAST CHIVERTON MINING COMPANY.

SIR,—With your usual kindness no doubt you will allow me to answer the question of "A Very Old Shareholder" in the Journal of Saturday last as to the lode of East Chiverton being the same as the one in West Chiverton. I may say I am an old shareholder in East Chiverton, if not a "very old" one, having held continuously and increasingly since 1870, paying during the interval on my earliest holdings 27 calls of from 2s. 6d. to 7s. 6d. each year. What induced me to take shares was the report of the late Capt. Rowe, than whom a more straightforward independent man never inspected a mine. He said—"There is no doubt but East Chiverton's No. 1 lode is one and the same as West Chiverton's south lode." I saw Capt. Rowe in 1873, and he again said the same to me, and "only get depth and you have a prize." He also wrote me soon after—"I have been on the mine and notice they have improved appearances. If I was you I would hold on." Having to me a considerable interest in the mine, I began—owing to heavy calls—to feel that I should, as "A Very Old Shareholder" does, like further and independent opinion as to the mine. I wrote to one of the mining brokers to "send me the name of some independent man qualified to inspect and report on a Cornish lead mine." In reply I got three names, any of which I was told would be right. I took the first one, and his report and correspondence entirely bore out Capt. Rowe's opinion of East Chiverton. I have since been on, in, and about each mine, and from my own observations fully agree with both.

Now, Sir, with your permission a word to my fellow-shareholders. Do not sell your shares yet; they are being looked after. A few weeks since I saw advertised 80 East Chiverton at ¼ to ⅜. I wrote to say I would have the lot, and got for reply that the quotation was a "printer's error;" the price was 1⅜. I again wrote—"I will take them." The reply was—"The party has considered to keep them." No doubt the "party" never had them; only wanted some holders to be frightened into the market, when the "party" would buy at their own price. I trust that "A Very Old Shareholder" will, if he is not satisfied, get an agent of his own to inspect the mine for him, or if he should prefer to go and see for himself (if I may judge from my own case), Capt. Southey will leave no stone unturned to give all information possible, when I have no doubt he will be much pleased. The shaft will soon be down to the 90, when a cross-cut of 6 or 8 fms. will reach the south lode, and a level of (say) 20 fms. will bring us under the rich lead seen in the level above (the 74), where by that time they will be stoping lead and helping to pay costs. When the lead ground of the 90 is opened into them I have no doubt the mine will commence to pay, and enter upon the same prosperous course which its western namesake did about the same depth. I therefore, take it to be madness of any old shareholder to part with his shares now. J. B.

MANUFACTURE OF SULPHIDE OF ZINC.

SIR,—As it not unfrequently occurs that blende is produced in large quantities at mines which are too far from a market to make the working of it remunerative, it occurred to me upon reading the invention of Mr. John Cawley, chemist, of New Cross-road, that although he has abandoned his patent for obtaining the sulphide direct from the metal, he might find some modification that would enable him to obtain it direct from the blende. According to his process the zinc is volatilised in a crucible or other suitable vessel, and the zinc vapour passes therefrom into a chamber, whose temperature is slightly higher than the boiling point of sulphur. The zinc vapour is brought into contact with an excess of sulphur vapour, and the vapours of zinc and sulphur unite with incandescence in the proportion of equivalent to equivalent, as represented by the equation $Zn \times S = Zn\,S$. The resulting sulphide is precipitated in the combination chamber in the form of a white impalpable powder, providing the above chamber be kept at a temperature slightly above the boiling point of sulphur. If the temperature be higher a highly crystalline substance is produced, which as a pigment does not possess so great a covering power or body as when the combination chamber is maintained at the temperature above specified. The sulphur must be supplied in excess,

but no deterioration of the products results from this since the excess above that required to form Zn S passes over to a condenser wherein it is condensed, and may be used over again.

As a source of zinc vapour the metal itself may be employed, or a mixture of its oxidised compounds with carbonaceous matter, which by heating will yield zinc vapour. As a source of sulphur the free sulphur may be employed, or any of its compounds which yield sulphur on the application of heat. The improvement consists, then, in bringing the vapour of zinc into contact with an excess of sulphur vapour, thereby insuring the formation of a definite sulphide, and avoiding the presence of metallic zinc in the products, which would render it valueless for application in the arts, and in removing the excess of sulphur by maintaining the combination chamber at a temperature above the condensing point of sulphur. From this it would appear that the object is to get more sulphur into combination with the zinc, and surely this could be as readily done with the blende as with the metal which has had the sulphur removed from it.

City, Oct. 27. S. T. P.

[For remainder of Original Correspondence, see this day's Journal]

Meetings of Public Companies.

YORKE PENINSULA MINING COMPANY

The annual general meeting of shareholders was held at the Cannon-street Hotel, on Tuesday,

Mr. F. P. WARD (the Chairman) presiding.

Mr. C. GRAINGER (the secretary) read the notice calling the meeting.

The CHAIRMAN said the directors were happy to meet the shareholders again with a satisfactory account of the progress and operations of the mine. The past year had shown that the expectations entertained by those who knew the property from the first had been justified. They had gone down from the 15 to the 55, increasing the reserves of ore at each level, and it was only fair to state that, in the opinion of the directors, the success of this company was now as assured as that of any mining operations could be expected to be. The board felt disappointed that up to this time they had not been able to speak to the shareholders about a dividend, but that had been owing almost entirely to the low price of copper. At this time last year the price per unit had fallen as low as 11*l.*, since then it had gone further down to 10*s.*, but had since recently risen to 13*s.* per unit, and the hope of the directors was that the rise would continue, and enable them to accomplish that on which their minds had been set—the acquisition of adequate crushing and dressing machinery, and next boring apparatus and the payment of a dividend. There was every reason to believe that as they went deeper they would get into more extended deposits of good ore, and so be able to pay satisfactory dividends if the price of copper kept up. Those who were acquainted with copper mines must know that there had never been such bad times. Some successful mines had stopped, for instance the Burra Burra and the Wallaroo. Their own company had been in depressed circumstances, and with the small capital at its command, and with which it started operations when the company was established, the directors had had great difficulties to contend with to prevent the stoppage of the mine. When they met last year the directors hoped that part of the proceeds of the Duryea Mine, sold to the Ravenscliff Mining Company, would have provided the machinery, which would have enabled the directors to expedite the operations at the Kurilla Mine. They were disappointed in that, in consequence of the continued fall of copper, and the necessity of keeping money in hand to meet the excess of the mine cost over the value of the ore raised. However, the directors still hoped that with an improved state of things they would be able to provide the machinery out of the proceeds of the sale of their copper ore. They had a promise from Captain Anthony to return 200 tons of ore per month, instead of the 100 tons which up to the end of July last he had been producing. Reports had recently been received from him which were as satisfactory as any which had ever arrived, and later on he would ask the secretary to read the more important passages from the last of them. Since the last meeting a valuable new lode had been discovered north of Morphett's lode. There were six lodes discovered upon the property, three of which were being worked. The means of the company would not allow the directors to drive regular cross-cuts across the whole of the property, but the directors anticipated that when this could be done other new and valuable lodes would be discovered. The mine never looked so well for the future as at the present moment. Every year that the directors met the shareholders the prospects had looked better. Hall's engine-shaft was now down to the 55 fm. level, and they had been driving to the east in good ore ground, and had reached the main deposit of ore there sooner than had been expected. It would be remembered that the eastern side of the main deposit of ore there ran almost vertically downwards, while the western side lengthened out about 1 fm. for every fathom sunk, and it was expected that the ore would come into the engine-shaft at about 100 fathoms from the surface. Captain Anthony considered that each 10 fathoms of ground which was sunk in Hall's shaft gave an additional 10 fathoms of ore ground, and he (the Chairman) gathered from his recent reports that he considered that at the end of the present year the reserve of ore above the present depth attained might be estimated at about 25,000*l.* value even at the present low price of copper. Therefore, they would see the necessity of getting proper machinery. The rock-borer would enable shafts to be sunk and levels to be driven much quicker than the ordinary mode of working, and the directors hoped to be able to accomplish this out of the operations of the next six months, and subsequently. Morphett's lode had been most satisfactory, but it was right to say that the new lode north of Morphett's was even more promising than Morphett's was in the 10. They had probed the new lode which showed itself at the surface in the 10, 20, and 30 fm. levels, and the ore in each respective level was good, and very like that in Morphett's lode. Some very rich samples of ore from the new lode had been sent to the board, and were now in the room, and the average percentage of the ore from the whole of the mine was exceedingly good. In the course of 1878 the amount of ore raised was 1442 tons; between January and June of this year the quantity was 829 tons, which showed a progressive increase, which the shareholders would agree was very satisfactory. As regarded the Bon Accord property, the directors had always looked upon that as a prospectively valuable property, and it had been proved conclusively that the lodes on the Burra Burra property ran into the Bon Accord property. There was a shaft down 50 fms., and whenever operations should be resumed the directors hoped the ore would be reached with comparative speed and economy. There was an extensive township on the property, and the last allotments which had been sold had brought a considerable increase of value over those which were sold at first. It was fair to call attention to the extreme economy with which the company had been managed in London. The present directors had not taken any fees; the secretary and accountant had merely nominal remuneration, and the office rent was very small; in fact, nothing could be more reasonable than the expenses at which the company stood. (Cheers.) In conclusion, he (the Chairman) moved the adoption of the report and accounts.

Mr. G. CLERIHEW seconded the resolution.

Mr. GRAINGER then read the following extracts from Capt. Anthony's report of Sept. 1 last:—"Kurilla Lode: At the 55, east of Hall's shaft, the drive has holed the winze. The three branches of ore of which the lode is composed will yield about 4 tons of 20 per cent. ore per fathom. The continuance of this fine run of ore ground at the 55 furnishes food for reflection as to our future action in this part of the mine. Its greater length as depth is attained goes to show that from the 55 downwards we may reasonably expect a continuous and steady yield of ore sufficient to yield a good margin of profit at a reasonable rate for copper. * * * Should we steadily deepen Hall's shaft and drive the levels, making (say) 12 fms. in depth per annum, the ore reserves would in a short time grow out of all proportion to the expenditure in dead work. * * * * Morphett's Lode: At the 43 east the lode continues to lay open tribute ground of about 3 tons of 18 per cent. ore per fathom with great regularity. On the whole, Morphett's lode is looking remarkably well, and the necessity for deepening the shaft is quite as great as that on the Kurilla lode. Had we the means I would advise the driving of a cross-cut at the 55 from the Kurilla to Morphett's, and thus drain it by Hall's engine, as Morphett's engine will shortly be fully engaged in winding only.—The North Branch, or New Lode at the 30: I am driving east to get under the winze being sunk from the 20; and although neither the drive nor the winze is as rich as they were a month ago, a good piece of tribute ground is being laid open, and the value of the property enhanced thereby. At the 10 I am following this branch east, and with evidence of its continuance not only as a distinct lode but an ore bearing one, indeed better than Morphett's at the same depth. Hall's engine is now in the best condition that I have ever known it to be. The little jigger is working well, and making a fair quantity of ore."

Mr. BOLTON made a few remarks on the form of the accounts.

Mr. MORRISON said, as regarded the mine itself, he thought they were now turning the corner. If the expenditure were maintained at near the present rate, and if Capt. Anthony increased his production to the extent he promised, the shareholders might look forward to making a fairly good profit: and, provided the price of copper were maintained, they might look forward to having a revenue account at the next meeting.

Mr. BROMFIELD said he was a large shareholder, and represented other large shareholders, and he congratulated the shareholders generally on the steady progress of the mine. There was an increase of something like 300 tons every year. It had not been pleasing to see a steady decrease of money whilst there was a steady increase of quantity, but no one was to blame for that. He thought there was a great debt of gratitude due to the directors considering the difficulties they had had to contend with; the company had very nearly touched quicksands, and nothing whatever but the determination of the directors to stick to the concern had placed the company in the good position which he now believed it to be in. What he should like to see done with the arrears of preference dividend was this:—There were now five half-years due, and on January 1 he should like to see the directors acknowledge the importance and existence of these accruing dividends by the issue of deferred dividend warrants for their payment. The company was now beginning to enter a profit-making state, and when they got to raising 200 tons per month the profit should, he thought, be 10,000*l.* or 12,000*l.* a year, which would more than pay a year's dividends on the preference shares. Two years ago he proposed there should be half-yearly meetings, and he believed that was assented to by the board; therefore, he hoped that henceforth there will be half-yearly meetings. He believed the company possessed as good a copper mine, for its size and degree of development, as any in the world. They had six parallel lodes, and he advised the directors to stick to the working of the present lodes, and not be led away to spend money speculatively. He believed they would be able to get 20 per cent. upon the preference shares, which meant 5 per cent. upon the ordinary shares. He decidedly should oppose any attempt to raise more capital at present. Let them endeavour to work the present lodes at a profit, and then when prosperity was achieved they could talk about more money if it should be required for any special purpose.

Mr. GEORGE T. RAIT, one of the auditors, said that, with reference to Mr. Bolton's remarks, for the present he preferred seeing the accounts in the form now presented. As regarded the issue of deferred dividend warrants for the accumulated dividends, that could be done, and no doubt they would be marketable; but, on the other hand, the shares on the market carried the accumulation in a much more simple form. On the whole, he knew of no company where the accounts were kept more correctly or where the work was so economically done. The real and practical result to all concerned would depend upon the price of copper. They had a mine which was second to very few. He might appear to be a little bit of a prophet, but he really thought the dividends on the preference shares had a fair prospect of being paid in cash. The Ravenscliff Company, in which this company held some fully paid-up shares, had just commenced crushing operations, and although they had been slow, still he was sanguine that out of that they might have a valuable cash asset. No doubt the accounts were open to considerable improvement if they had profit on which to base a profit and loss account, and if the shareholders would be patient till the company had thoroughly turned the corner, they would very likely see the accounts a good deal concentrated.

Mr. BOLTON said that after the explanations which had been given he should withdraw his remarks on the subject of the accounts. As regarded the deferred dividend warrants, if they were issued they would meet the case of people who did not want to sell their shares, but would be glad to sell the dividend warrants. He suggested that Mr. Bromfield should be requested to take a seat at the board.

Mr. BROMFIELD said it was impossible for him to take a seat at the board—in fact, he had already been invited to join, but had been compelled to decline.

The CHAIRMAN said there would be an obvious inconvenience in issuing deferred dividend warrants; let them first make the profits, and then think of paying the dividends. As regarded half-yearly meetings, the directors would be happy to hold them when the company got into a dividend-paying state. The directors fully appreciated the remarks of Mr. Bromfield, and also the kind feeling which had been shown by the shareholders.

The resolution for the adoption of the report and accounts was then put to the meeting, and carried.

The CHAIRMAN said the board regretted to have lost the services of one of their number, Mr. George Smith, who had been compelled to retire from ill-health, but who fully showed the confidence which the directors felt in the future of the company. In his place the board had elected Mr. R. B. Ottley, and had great confidence in recommending him to the shareholders. He moved that Mr. Ottley, who retired on the present occasion, be re-elected a director.

Mr. BROMFIELD seconded the resolution, which was put to the meeting, and carried unanimously.

Mr. OTTLEY acknowledged his re-election.

On the motion of the CHAIRMAN, secouded by Mr. BROMFIELD, Mr. F. P. Ward, who retired by rotation from the board, was unanimously re-elected a director.

On the motion of Mr. BROMFIELD, seconded by a SHAREHOLDER, Mr. George Thomas Rait, of the firm of Rait and Kearton, was re-elected an auditor, he having been recently elected an auditor in the room of Mr. W. B. C. Maxwell deceased.

A resolution was then passed to credit in the accounts the sum of five guineas a year each for the auditors fees, unpaid up to the date of the death of Mr. Maxwell.

A resolution was also passed authorising the directors to credit ten guineas each to the present auditors for auditing the accounts submitted to the meeting.

On the motion of Mr. LOVERIDGE, seconded by Mr. BROMFIELD, a cordial vote of thanks was passed to the Chairman and directors, the secretary and accountant, and as well as to Captain Anthony, Mr. Bromfield and the meeting generally expressing great satisfaction with his able and zealous management of the mine.

SOUTH CARADON MINING COMPANY.

At a general meeting of shareholders, held at the mine on Tuesday (Mr. RICHARD KITTOW in the chair), the accounts for sixth, seventh, and eighth months showed a profit of 22*l.* 7*s.* 6*d.*, and the balance of 2280*l.* 17*s.* 5*d.* carried to the credit of next account. The following report was read:—

Oct. 28.—Our mine, on the whole, is looking much the same as it has for some time past, yielding large quantities of rich ores. The advance in the standard at our last sale made a considerable difference in our receipts, and we are still hoping for a further rise, which will enable us to make good profits. Since the last meeting we have purchased of the Barrow Rock Drill Engineering Company a new boring machine, consisting of engine, air compressor, three drills, pipes, &c., for a sum of 400*l.* The same has been erected, and is sufficiently large to work two drills at one time; this will be of very great advantage to us in our future operations, as we shall now be in the position to drive hard cross-cuts and develope the mine with greater speed.—JOHN HOLMAN.

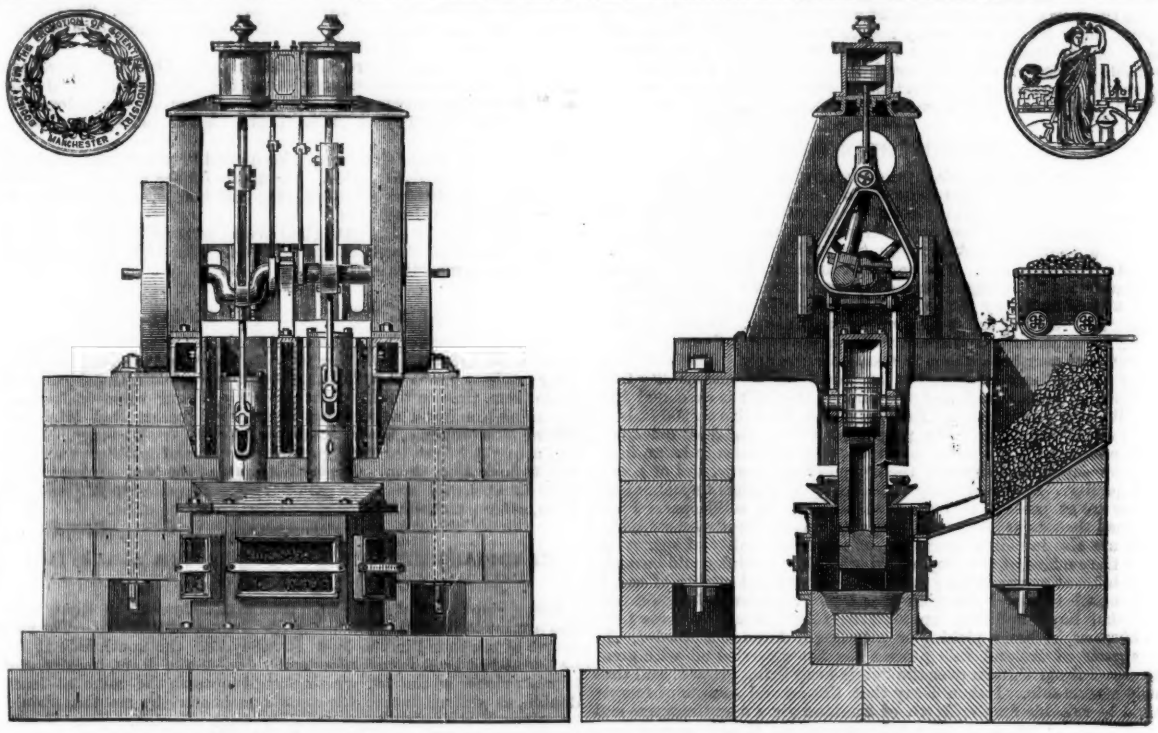
NORTH LEVANT.—At the meeting held in July a call of 10*s.* a share was made, payable in two instalments, 5*s.* on Sept. 1, and 5*s.* on Nov. 1. The purser has just issued a circular to the adventurers, saying that "with improved prospects and an increasing price for tin it is not deemed necessary to collect the second instalment of call due Nov. 1." This mine was the last one in the St. Just district to make a call, and is evidently determined to be the first to get out of the rut. It is altogether an anomaly in Cornish mining not to collect a call that has once been made.

[For the remainder of Meetings, see to-day's Journal.]

INJUNCTION AGAINST THE GUION LINE.—It appears from advices to hand from New York that Judge Blatchford, of the New York Circuit Court, has issued an injunction against the Guion Line, restraining them from importing into America iron cotton ties, which infringe the patents held by the American Cotton Tie Supply Company. The same Court has also issued injunctions against all American coastwise steamship companies,

RAILWAYS IN AMERICA.—It is expected that 4000 miles of railway will be opened in America this year, against 1273 miles in 1878, 1223 in 1877, and 1556 in 1876.

At a sale of shares in the Lion Brewery Company, held by Messrs. Inman Sharp and Harrington, on Wednesday, the 20*l.* six per cent. preference shares (fully paid up) realised 25*l.* 5*s.* per share, and the 25*l.* ordinary shares (17*l.* paid) realised an average of 36*l.* 5*s.*



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PNEUMATIC STAMPERS,
For Pulverising Tin and Lead Ores, Gold Quartz, &c.,
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ST. JUST FOUNDRY, NEAR PENZANCE, CORNWALL.
ROTARY STAMPERS SUPPLIED ON THE SAME PRINCIPLE, ALSO WITHOUT STUFFING BOXES OR GLANDS, WHERE RUNNING GEAR EXISTS, OR WITH HORIZONTAL CONDENSING ENGINES AND BELTS TO DRIVE THEM, IF PREFERRED.
Also, SOLE MAKERS OF STEPHENS' PATENT PULVERISER.
MINING AND OTHER MACHINERY CONSTANTLY ON SALE,
NEW AND SECOND-HAND.

CHAPLINS PATENT STEAM ENGINES AND BOILERS.
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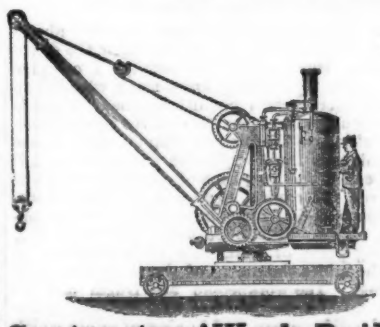

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Portable or Fixed, for Railways, Wharves, &c., for unloading
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Gauge from 2 feet upwards.
Geared to draw very heavy weights in proportion to their power, and SPECIALLY
SUITABLE FOR
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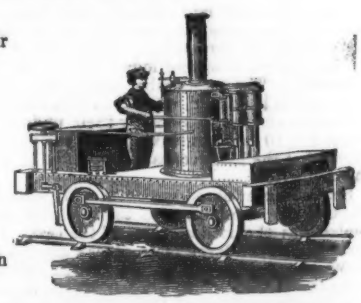

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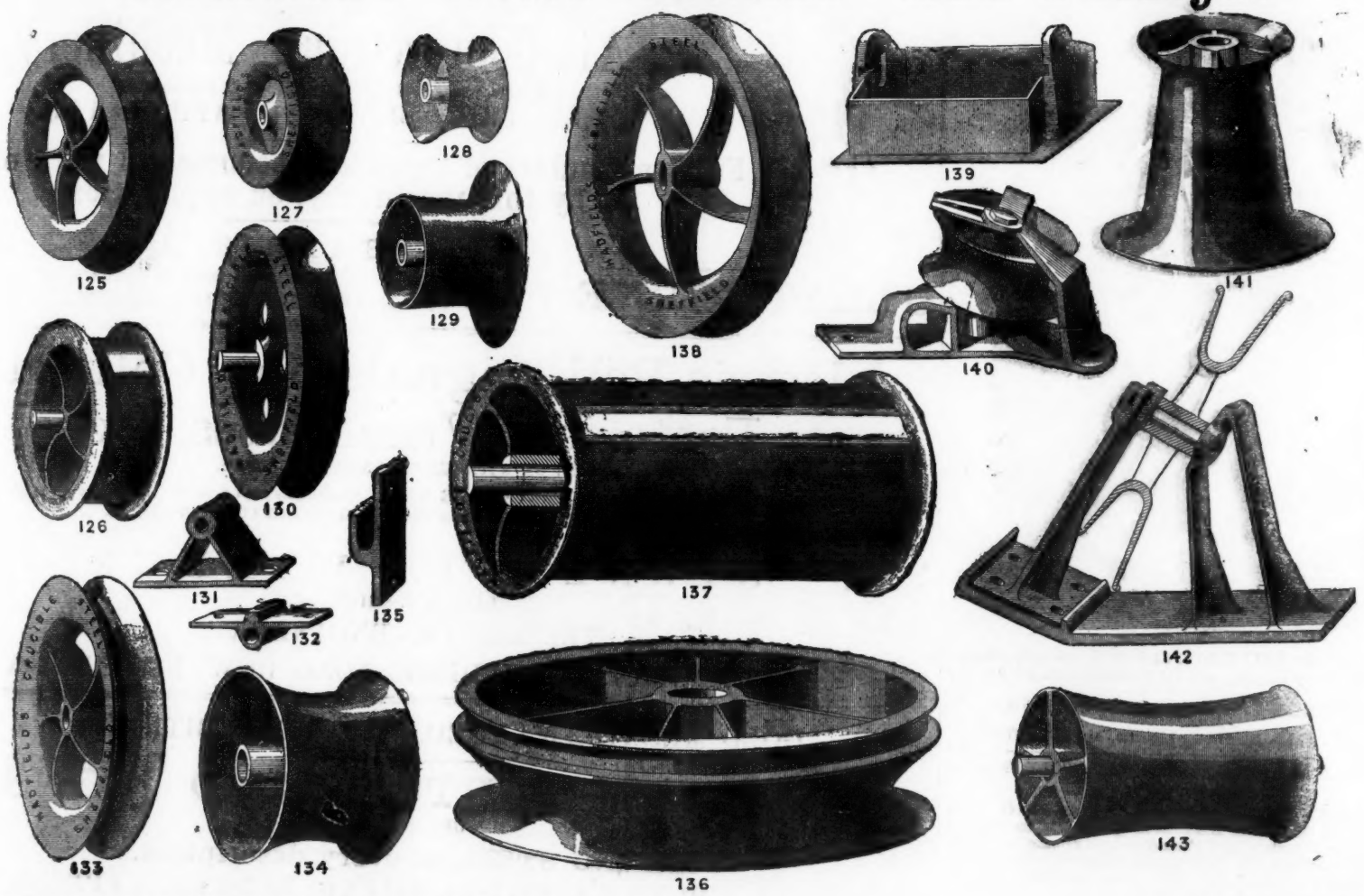

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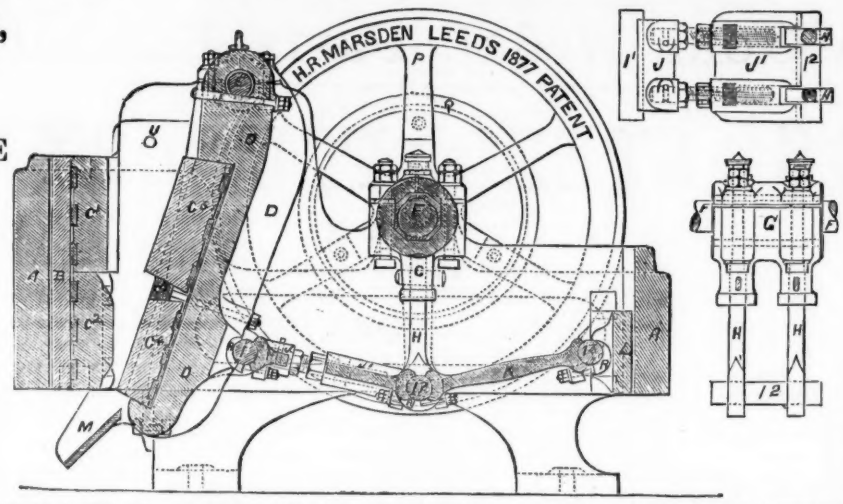

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I am, dear Sir, yours very truly,
WILLIAM MILLER.

AND THIS—

Wharthole Lime Works, Aspatria, Cumberland, July 11th, 1878.

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DEAR SIR,—We are in receipt of your letter of 4th inst. I may just state that the stone breaker above named has been under my personal superintendence since its erection, and I have no hesitation in saying that it is as good now as it was five years ago.

I am, dear Sir, yours faithfully,
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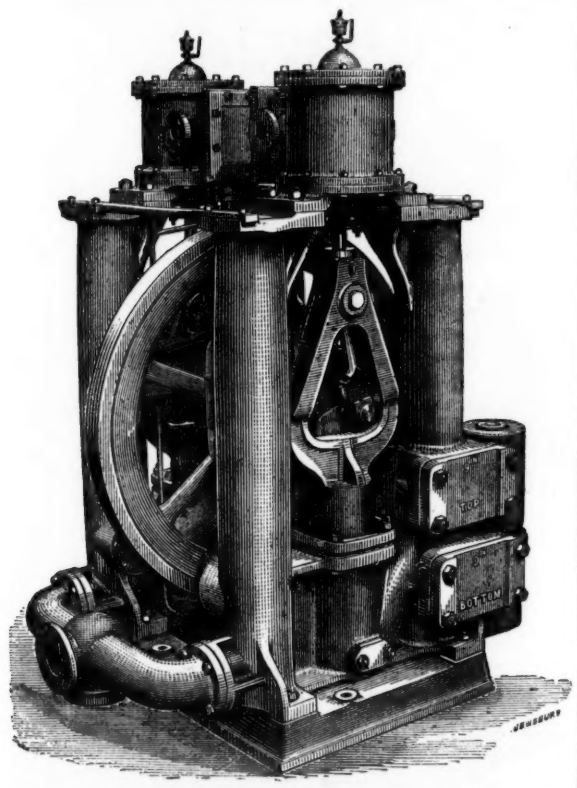

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